



U.S. Department of Energy's  
**Office of Science**

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# **U.S. Burning Plasma Program and ITER Physics**

Panel Discussion  
Budget Planning Meeting  
Gaithersburg, MD  
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*The U.S. MFE Program is rich in its activities related  
to Burning Plasmas and ITER*

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- Presentations at this Budget Planning Meeting
  - Three major facilities (DIII-D, C-MOD, NSTX)
  - International Collaborations
  - ITPA activities
  - Several ICC Activities
- Presentations and discussions at recent PAC meetings for DIII-D, C-MOD, and NSTX
- Theory and modeling activities
- Strong VLT support of ITER R&D Tasks

*Why do we need a 'community based'  
U.S. Burning Plasma Program?*

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- The programmatic activities dealing with the BP issues will increase as ITER progresses:
  - Interaction with the ITER Physics Team
  - ITER Physics and technology R&D Tasks
  - ITPA High priority Research
  - Priorities for research activities in the U.S.
  - Congressional and other inquiries on U.S. activities on burning plasmas and ITER support

*We look again to the community for  
organizational abilities to help us guide the BPP*

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- The community has been effective before in establishing US participation in ITER:
  - UFA Workshops
  - Snowmass meeting
  - FESAC and NAS reviews
- Now we need your help in guiding the implementation of the BPP program

## *The establishment of a U.S. Burning Plasma Program is a Community Activity*

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- Somewhat analogous to VLT, OFES shall appoint a Burning Plasma Program Leader to get the process started;
- The BPPL should work with the community and OFES to identify a process/structure for this activity;
- We Should start with minimal structure now and evolve with the ITER process and needs.

## *The Burning Plasma program will be evolutionary*

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- The BPP will evolve as we progress through a stream of ITER decisions in the coming years;
- We should be flexible in adjusting to a evolving program;
- Now we are engaged in ‘Burning Plasma’ support activities in current experiments, modeling, and technology R&D
- Eventually we will plan for ‘Burning Plasma’ experiments in ITER, validate models in a D-T plasma, and test technologies such as Blankets

# *Expectations from a Burning Plasma program*

## *Bring a coherence to BP activities*

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- Enhance coordination and guidance
  - Major facility programs, international collaboration, ITPA and joint experiments,
  - Theory and modeling activities
  - VLT
- Advocate for Burning Plasma Program
- Vet ITER Physics and Technology tasks
- Plan for ITER R&D program
- Integrate ITER with the broader domestic program

*OFES has been engaged in discussions with  
'Stake Holders' for the past six months*

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- Meeting at Villamoura in November 04, during the FEC 2004;
- Conference Call last Friday;
- Most of the panel members here participated at these discussions:
- Allen, Fonck, Marmar, Meade, Milora, Navratil, Prager, Sauthoff, Taylor, VanDam;